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LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
600 SOUTH AVENUE WEST
WESTFIELD, NJ 07090

EXAMINER
BROWN, RUEBEN M

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PTOL-90A (Rev. 04/07)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/466,279
Filing Date: December 17, 1999
Appellant(s): INOUE ET AL.

MAILED

JAN 2 5 2008

Technology Center 2600

Natalie S. Morelli
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/2/2007 appealing from the Office action

mailed 2/9/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment to the claims after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

EP 0 853 402 A	YOSHINO	7-1998
5,764,930	STAATS	6-1998
6,507,953	HORLANDER	1-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 3-8, 10-11, 13-18 & 20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yoshino, (EP # 0 853 402 A), in view of Staats, (U.S. Pat # 5,764,930).

Considering amended claim 1, the claimed receiving apparatus for receiving a digital

broadcast which comprises a transport stream, such that the video and audio data have been

compressed and multiplexed, comprising:

' a decoder for decoding the transport stream' is met by the operation of the IRD 102,

which receives video signals, and that includes video processing section 303, Yoshino, col. 4,

lines 17-35.

'digital interface for mutually transmitting the decoded transport stream to and from

digital signal processing devices' reads on the digital connection interface 304; col. 4, lines 21-

25. Yoshino discloses that the IRD 102 is the master device to which the devices are connected,

See Fig. 1 & 2; col. 4, lines 52-58 & col. 9, lines 36-41. Therefore the digital interface 304,

which is comprised within the IRD 102, (see Fig. 3) meets the claimed subject matter.

'register for selecting predetermined number of devices from among a plurality of DSP

devices connected to the digital interface for allocating node ID numbers to the selected devices,

such that the register stores a record of the node ID number allocated to the selected device'

reads on col. 4, lines 38-47 & col. 5, lines 5-21. Specifically, Yoshino teaches the IRD 102

maintains a connected devices record within memory 308, "to store therein devices names and

ID numbers or addresses of all devices connected to a bus or a network linked with the IRD

102", see col. 4, lines 36-46 & col. 5, lines 5-21. Therefore the claimed 'register' is met by the

connected devices memory 308.

As for the amended claimed feature of the 'register maintaining the record of the unique

node identification number regardless of whether the selected device remains connected to the

digital interface', Yoshino operates according the standard IEEE 1394 Protocol, wherein upon a

bus reset, the node IDs of all of the nodes may be changed. It is noted that a bus reset may be

caused by the addition or removal of a device to/from the instant bus and that during a bus reset,

all devices are disconnected from the bus, and all or only some of the original devices are re-

connected to the bus, along with possibly new device(s). However, Staats which is in the same

field of endeavor seeks to overcome the limitations of the IEEE 1394 Protocol, by also assigning

a node reference ID to each node, along with its IEEE 1394 Protocol address, i.e., node base

address, see col. 3, lines 1-20 & col. 5, lines 3-15, which reads on the claimed 'register for

allocating node ID numbers'.

Staats goes on to teach that node reference ID is stored in memory, which reads on the

claimed, 'register for storing a record of the node ID numbers allocated to the selected device',

see col. 5, lines 5, lines 50-61. In particular, Staats discloses that the node reference ID is stored

in a linked list of memory locations, col. 2, lines 12-19. Furthermore Staats teaches that after a

bus reset, the node unique ID of any remaining node(s) is compared with those values in the

device data records, such that if any matches are detected then the instant node unique ID is

updated to its current node base address. Moreover, the original node reference ID of the device

is also re-associated with the node unique ID, based on a pointer, which reads on the claimed

feature of, 'and maintaining the record regardless of whether the selected device remains

connected to the digital interface', see col. 8, lines 1-60. It is asserted that the node reference ID

of Staats corresponds with the claimed 'unique node identification number'.

It would have been obvious for one of ordinary skill in the art at the time the invention

was made, to modify Yoshino with the feature of maintaining a node reference ID for devices

connected to a network, even after a bus reset, for the improvement of allowing bus transactions

to be transparent with respect to each device, which Staats discloses is a more efficient and

reliable technique, col. 1, lines 30-67 thru col. 2, lines 1-25; col. 4, lines 61-67 thru col. 5, lines

1-2 & col. 9, lines 1-15,since the bus transaction are directed to a node reference ID, (as a

destination address) which is a persistent value, instead of the node bus address, which is subject

to change at each bus reset.

Considering claims 3 & 13, as for confirming whether a node ID has been allocated, the

claimed feature reads on the disclosure of Staats which teaches that upon a system start-up, a bus

scan is initiated by initialization software, and issues node reference ID to each device, Col. 3,

lines 1-14. This node reference ID is stored in a data structure that associates the node reference

IDs with their corresponding node base address, col. 2, lines 5-25.

Considering claims 4 & 14, the amended claimed subject matter reads on any or all of the devices being reconnected, after a bus reset and maintaining the same node reference ID, as taught by Staats, col. 7, lines 5-16 & col. 8, lines 11-20.

Considering claims 5 & 15, Yoshino teaches that records stored in the register may be changed by user input, col. 8, lines 10-25, and discusses user selection of a source and/or target device, col. 8, lines 26-55. The claimed feature also reads on the adding or removing a device to/from the bus.

Considering claims 6 & 16, the claimed subject matter reads on the discussion in Staats that the node reference IDs are not discarded upon bus reset, col. 5, lines 4-61.

Considering claims 7 & 17, Yoshino teaches displaying the list of connected devices; see Fig. 5 & Fig. 15; col. 8, lines 10-25 & col. 13, lines 11-30.

Considering claims 8 & 18, see Yoshino, col. 9, lines 5-15; col. 13, lines 11-30; Fig. 8 & Fig. 15, which teaches that disconnected devices have a different appearance from connected devices.

Considering claims 10 & 20, the user in Yoshino is enabled to select a target or source device, col. 13, lines 10-30.

3.   Claims 9 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshino &

Staats as applied to claims 7 & 17 above, and further in view of Horlander, (U.S. Pat #

6,507,953).

        Considering claims 9 & 19, Yoshino, which includes recording devices, does not teach

providing a warning when a record of a device to provide recording has been changed.

Nevertheless, Horlander, which is in the same field of endeavor provides such a feature, col. 4,

lines 12-26; col. 7, lines 66-67 & col. 7- col. 8, line 14. Horlander provides resolution when it

detects that a VCR is not on the bus. It would have been obvious for one of ordinary skill in the

art at the time the invention was made, to modify Yoshino with the teachings of Horlander, at

least for the advantage of notifying the user that a pending recording would not be made, since

the recording device is not connected. Horlander does not specifically disclose a warning display

for the condition that a record of a device has been changed. Horlander provides numerous other

status warnings. It would have been obvious for one of ordinary skill in the art at the time the

invention was made, to operate Horlander to add any particular warning display that corresponds

with a particular condition of the system, for the known desirable benefit of informing the

consumer of the status of the entertainment system.

(10) Response to Argument

Appellant's discussion with respect to the difference between the <node unique ID> and

a <unique node ID>, which is claimed as a 'unique node identification number', is essentially a

restatement of subject matter which is already settled. As noted in the Response to Arguments,

mailed 2/9/2007, examiner agrees with appellant on the definition of these terms.

The node unique ID generally refers to the ID created by the vendor/manufacturer of the

device and is permanently associated with the device, see Staats (col. 2, lines 57-67), which

states that in one embodiment the node unique ID is 64 bit number which includes a node vendor

ID, i.e., a manufacturer's identification. Therefore, although this node unique ID in Staats does

not change during a bus reset, it does not read on the claimed subject matter because the node

unique ID is not allocated by a register in 'receiving device', as recited in the claim, it is provided

by the device's vendor/manufacturer.

Generally, a unique node ID discussed in numerous prior art documents, refers to the

unique node number given to a device within a local area network, such as using the IEEE 1394

protocol. The claimed, 'unique node identification number', more or less corresponds with the

generic unique node ID.

The issue remaining to be decided, as discussed in detail of the arguments filed 5/14/2007

and the subsequent Advisory Action mailed, 6/22/2007, is the scope of the device data record,

node base address and the node reference ID, all presented in Staats. The only issue to be

resolved in this case is simply whether the node reference ID of Staats, reads on the claimed,

'unique node identification number'.

As a point of clarification, it is noted that Staats uses both terms, *node reference ID* and

reference ID. These terms are taken as interchangeable, since they are used from sentence to

sentence in Staats, and the features are not limited to one or the other term. It appears that in the

Brief, appellant also uses the terms interchangeably, and likewise they are interchangeable in the

present Examiner's Answer.

Appellant's invention is that a register allocates and stores the 'unique node identification

number' for each of a plurality of devices connected to a digital interface. The invention goes on

to operate in a manner that even if a device is disconnected from the digital interface, (such as

during a bus reset) that the associated 'unique node identification number' is still maintained by

the register. Thus, even after bus reset, each device will still connect to the digital interface using

the same 'unique node identification number'.

Examiner agrees that the node base address of Staats associated with a device,

conceptually corresponds with the claimed, 'unique node identification number', but that during

a bus reset this value is not maintained. The node base address represents the logical node

address of a device within the IEEE 1394 protocol, (see Staats col. 3, lines 14-21) which does

correspond with the technology of the present invention, disclosed in the specification. <u>Examiner</u>

<u>notes however, that neither independent claims nor dependent claims recite that the present</u>

<u>invention is limited to the IEEE 1394 protocol,</u> or that the 'unique node identification numbers'

are provided using the IEEE 1394 protocol.

The base reference, Yoshino, uses the IEEE 1394 protocol. Similar to the present

invention, Staats recognizes that pending communication to/from devices may have problems in

the case of an interruption by a bus reset, when the IEEE 1394 protocol is being used and thus

presents an improvement. It is recognized that devices are at least momentarily disconnected

from the interface during a bus reset. As a result, if a bus reset command is issued during a

pending read transaction from a particular device, thereby interrupting the execution of that read

instruction, there may be a problem in making sure that the instant pending read transaction is

accomplished with respect to the appropriate device, after the bus reset, see col. 1, lines 52-63 &

col. 4, lines 61-67 thru col. 5, lines 1-2.

In order to overcome this problem, a <unique> node reference ID is associated with each

device, via its driver and device data record. See Fig. 2; col. 3, lines 1-12; col. 5 & col. 8, lines

12-65 of Staats, which details an exemplary routine. During a Read request between two devices,

(i.e., a Read request is initiated by the Driver of first device, to a destination device), the node

reference ID of the destination device is called, wherein at least two of the parameters returned

with the node reference ID are the <node> unique ID and node base address. Thus after a bus

reset occurs, the node reference ID of the destination device will point from the old,

deviceBaseAddress to the updated, deviceBaseAddress. This procedure avoids confusion and as

explained in col. 8, lines 41-44, "in the above routine, the bus reset may occur at any time during

the execution of the Read", which provides a great deal of flexibility in the operation of Staats.

Therefore, it is asserted that the node reference ID also conceptually corresponds with the

claimed 'unique node identification number', but that since it does not change during a bus

reset, the node reference ID of Staats reads on the claimed, 'unique node identification

number'.

Appellant agrees that the node reference ID does not change during a bus reset, see Brief

page 16, 2nd paragraph. However, appellant's position is that the node reference ID, which may

be characterized as a virtual node, does not read on the claimed, 'unique node identification

number'. Appellant argues on page 16, that the device data records, which comprises the node

base address and the node reference ID, and more specifically that the node base address is

dispositive on the claimed subject matter, instead of the cited, node reference ID.

However, as pointed out in the Advisory Action the claim merely states, '...allocating

unique node identification numbers to said selected device...storing a record of said unique node

identification number...and maintaining said record...'. Particularly, it is noted that the claimed,

'unique node identification number' is not recited in the claim to be 'limited to', 'embodied as',

'comprised as' or in any way 'restricted from being' either a physical node, logical node, virtual

node or IEEE 1394 node. Therefore a prior art node ID operating as any one of the terms just

listed, and that meets the other criteria discussed in the first sentence of this paragraph would

read on the limitation of the claimed 'unique node identification numbers'.

Also, as pointed out in the Office Action mailed 2/9/2007, the claimed, 'unique node

identification number' is a term that is not found in the specification, drawings nor the original

claims, and therefore given its broadest interpretation, the node reference ID in Staats meets the

amended claimed feature. As discussed above, the node reference ID *is* a unique node

identification number that *is* associated with each device and *is* maintained after a bus reset. With

respect to the subject matter recited in the claim, regarding the 'unique node identification

number', there is nothing in the claim that requires anything more than the node reference ID of

Staats.

On page 15 of the Brief, appellant answers this assertion (which was also made in the

Advisory Action, mailed 6/22/2007), first by merely restating the position that "the reference ID

of Staats is neither equivalent nor even comparable to the unique node ID of the present

invention". Appellant's subsequent response to the above assertion on page 16, is to argue that

the node "reference ID is a parameter used by the drivers as a pointer to specify a target node".

Examiner agrees, but further notes that in the next sentence appellant has also recognized that,

"Specifically, **the reference ID is associated with a *device* data record** including a node base

address and a corresponding node unique ID", with specific emphasis placed on *device*.

Therefore appellant admits that the node reference ID is associated with a device, via the device data record construct. Thus, whether or not the device drivers in Staats actually interact with the node reference ID is immaterial as to whether the node reference ID is in fact a <unique node identification number> allocated to a device and is stored/maintained even when the device is disconnected from the interface and as such meets the claimed language.

On page 17 of the Brief, appellant continues to argue that the node reference ID of Staats does not read on the claimed, 'unique node identification number', because the claim requires the 'unique node identification number' to be stored in a record and that since the reference ID points to the device data record, but is not included within the device data record itself, then the limitations of the claim are not met in their entirety. Notwithstanding appellant's argument, Staats at col. 5, lines 15-21 reads, "As reference IDs are determined at the time of system start-up, **data records of these reference IDs can be maintained for such purposes**", emphasis added. Thus, Staats clearly teaches that data records of the node reference IDs are maintained, and thus reads on the claimed subject matter. Furthermore, col. 2, lines 12-20 of Staats reads, "...The reference ID specified by the source node driver is associated with the destination node's bus address **according to a data structure stored in memory** in which node bus addresses are associated with the node reference identification parameters...", emphasis added. Therefore, the node reference IDs in Staats are clearly stored in a 'register', as such.

Moreover, in the rejection, examiner relies on the connected devices memory 308 in Yoshino (col. 4, lines 36-47) to provide the claimed, 'register... that... stores the record'.

Therefore, it is the combination of Yoshino & Staats that meets the claimed subject matter.

Staats operating within the environment of Yoshino, would provide for the devices connected

memory 308 to store the node reference ID of Staats.

Appellant finally notes on page 17 that, "Additionally, Staats' node reference IDs 'are

subject to change across system resets.' (col. 3, lines 1-3)..." However, examiner points out that

a system reset is a procedure that allows an administrator to reset the whole system. The node

reference IDs are allocated during system start-up. In order to work properly, all networked

systems require a means for taking the system off-line, i.e., system shut-down or system reset, at

least for maintenance purposes, which may include changing the nodes or any other parameters

associated with the devices connected to the instant network. Secondly, the passage does not

directly state that the node reference IDs *are* changed during a system reset, but merely that it is

"subject to change". This would mean that the system operator has the option to change the node

reference ID, but does not at all say that they have to change. Nevertheless, even if node

reference ID was required to change during a system reset in Staats, it is pointed out that the

claims do not recite that the record is maintained, for instance, "in any and all instances that a

device is disconnected from the interface". Therefore, since the node reference ID is maintained

during a bus reset (whereas devices are at least momentarily disconnected from the interface

during a bus reset), the claimed subject matter, 'regardless of whether said selected device

remains connected to said digital interface', is still met at least in that instance of disconnection,

by the operation of Staats.

In response to appellant's arguments on page 19, regarding claims 3 & 13. It is pointed

out that at system start-up, the initialization software scans all of the devices connected to the

bus. This procedure reads on confirming whether a device has already been associated with a

'unique node identification number', i.e., node reference ID.

Regarding the discussion of claims 4 & 14, appellant argues, "the portions of Staats ...

only further show the difference between Staats and the pending claims". However, it is pointed

out that the claims merely recites, 'register automatically allocates the same unique node

identification numbers to the selected devices when said selected devices are re-connected to

said digital interface'. Therefore, the fact that after a bus reset, the node reference ID in Staats is

re-associated with the appropriate device, for instance using its prior association with the node

unique ID (as found in the data structure mentioned in col. 2, lines 10-25), this meets the claimed

subject matter. The system takes the node unique ID, which is comprised within the device data

record, and provides it with its updated node base address, col. 7, lines 54-67 thru col. 8, lines 1-

45. Then the system re-associates the node reference ID with its corresponding device data

record, by using the originally associated node unique ID. This procedure reads on the claimed

allocation after a re-connection.

Regarding claims 6 & 16, appellant asserts "...no cancellation of the record ID is

attempted. Accordingly, such cancellation is never prohibited". Examiner respectfully disagrees.

During a bus reset, the 'unique node identification numbers' are sometimes cancelled. Therefore,

since in Staats the node reference IDs are maintained during a bus reset, they are 'in terms' prohibited from being cancelled.

Regarding the rejection of claim 9, it is pointed out that the event in Horlander of the VCR being removed from the bus, corresponds with the claimed, 'operation to change a record of the in which a recording reservation has been set'. This is true since, as pointed above when the VCR is removed from the bus, a bus reset command is sent, which could change the IEEE 1394 node IDs in the system.

As for the claimed 'warning display', Horlander discloses that the OSD of the system provides the user with a variety of warnings, see col. 22, lines 25-45, for instance. Nevertheless, given the state of art disclosed by Horlander, to provide a different more specific warning display, would have clearly been within the level of ordinary skill of art. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to operate Horlander to add any particular warning display that corresponds with a particular condition of the system, for the known desirable benefit of informing the consumer of the status of the entertainment system. Thus a simple warning display that indicates a particular different error would not have been a patentably distinct concept at the time the invention was made.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related

Appeals and Interferences section of this examiner's answer.

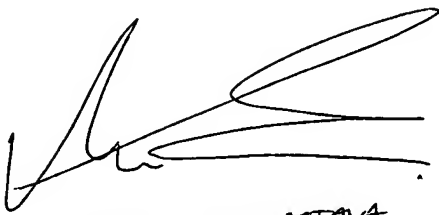For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Reuben M. Brown

Conferees:

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Chris Kelly

VIVEK SRIVASTAVA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Vivek Srivastava